Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	October, 13		October, 14		October, 15		October, 16		October, 17		October, 18	
09:00 – 10.30	Angela Madeo		Samuel Forest		Bruno Lombard		Jean-François Ganghoffer		Varvara Kouznetsova		Tutorial	
11:00 – 12:30	Jean-François Ganghoffer		Patrice Cartraud		Manuel Collet		Patrice Cartraud		Giulio Sciarra		Tutorial	
	Lunch break											
14:00 – 15:30	Patrizio Neff		Varvara Kouznetsova		Angela Madeo		Patrizio Neff		Bruno Lombard		Closure	
16:00 – 17:30	Giuseppe Rosi		Giulio Sciarra		Excursion		Giuseppe Rosi		Manuel Collet			
18:00	Welcome aperitif				Conference dinner							

Admission

The course is offered as on-site attendance and spots will be allocated on a first-come, first-served basis.

Registration fees:
150 Euro which includes a complimentary bag, five fixed menu buffet lunches, and downloadable lecture notes. The deadline for application is

- September 26, 2025.

Application forms should be submitted by mail: jendrik.voss@tu-dortmund.de

Cancellation policy:
Applicants may cancel their registration and receive a full refund no later than:

- September 26, 2025 (no refunds after the deadline).

Accommodation

Upon request, a limited number of on-site participants can be accommodated at Guest House at the price of 200 Euro per person.

For further information please contact:
Angela Madeo
August-Schmidt-Straße 8
44227 Dortmund, Germany
+49-231-755-7489
angela.madeo@tu-dortmund.de

Multi-scale approaches for architectured and microstructured materials and metamaterials

Nantes, October 13-18, 2025

Summer School coordinated by

Angela Madeo
TU Dortmund, Germany

Jean-François Ganghoffer
Université de Lorraine, Nancy, France

Supported by
Université franco-allemande Deutsch-Französische Hochschule
www.dfh-ufa.org

Université franco-allemande Deutsch-Französische Hochschule

Local scientific and organizational support

Giulio Sciarra
Ecole Centrale de Nantes, France

Multi-scale approaches for architecture, microstructured materials and metamaterials

This interdisciplinary program offers an unparalleled opportunity to explore the fascinating world of mechanics and structural engineering for architected materials and metamaterials. Join us for the latest advancements in heterogeneous materials, homogenization methods, and their applications in structural design.

Over the course of 6 days, participants will engage in a dynamic mix of lectures, workshops, and hands-on activities led by renowned experts in the field. Study fascinating topics such as microstructure-based modeling, effective medium theories, and the design of metamaterials with tailored mechanical properties. Explore a range of key themes, including the mechanics of heterogeneous media, homogenization techniques, multiscale modeling approaches, 3D printing, experimental methods, and the design and characterization of metamaterials. Investigate the behavior of complex materials at different length scales and in different regimes (statistics, dynamics, acoustics), uncovering the underlying principles that govern their mechanical response. Through interactive sessions and collaborative projects, you'll gain practical insights and skills that are also applicable to real-world engineering challenges.

Our distinguished faculty members and guest speakers bring a wealth of expertise and experience to the summer school led by Prof, Angela Madeo from the TU Dortmund University and Prof. Jean-François Ganghoffer from the University of Lorraine. They will guide participants through an enriching learning journey with other esteemed speakers.
In addition to the academic program, participants will have the opportunity to explore the vibrant culture and history of Nantes, our host city. Cultural excursions and networking events will complement the academic program, providing a well-rounded experience for participants to connect with peers and explore the beauty of Nantes.

Audience

The Summer School is addressed to international PhD students and postdoctoral researchers in mechanical and civil engineering, applied mathematics, physics, mechanics of materials, and material science who are interested in broadening their interests and knowledge in analyzing and designing heterogeneous materials.

Location

The Summer School will be held at the Ecole Centrale de Nantes, France.

Lecturers

Patrice Cartraud – École Centrale de Nantes, France

Manuel Collet – French National Centre for Scientific Research, Paris, France

Samuel Forest – Paris Sciences et Lettres University, France

Jean-François Ganghoffer – Université de Lorraine, Nancy, France

Giulio Sciarra – École Centrale de Nantes, France

Varvara Kouznetsova – Eindhoven University of Technology, Netherlands

Bruno Lombard – French National Centre for Scientific Research, Marseille, France

Angela Madeo – TU Dortmund, Germany

Patrizio Neff – University of Duisburg-Essen, Germany

Giuseppe Rosi – Paris-Est Créteil University, France

Lectures

All lectures will be given in English and their notes can be downloaded. Instructions will be sent to accepted participants.